



-think logically, providing plausible explanations for phenomena (they may be methodical in their thinking, but not in their recording)

- put forward objective arguments, using combinations of evidence and creative ideas, and question other people's conclusions (including their teacher's!)
- decide quickly how to investigate fairly and manipulate variables
- consider alternative suggestions and strategies for investigations
- persistently pursue an investigation until all reasonable avenues have been explored
- analyse data or observations and spot patterns easily
- strive for maximum accuracy in measurements of all sorts, and take pleasure, for example, from
- reading gauges as accurately as possible (sometimes beyond the accuracy of the instrument)
- make connections quickly between facts and concepts they have learned, using more extensive vocabulary than their peers
- think abstractly at an earlier age than usual and understand models and use modelling to explain ideas and observations. For example, key stage 3 pupils may be willing to apply abstract ideas in new situations; key stage 4 pupils may be able to use higher-order mathematical skills such as proportionality, ratio and equilibrium with some complex abstract ideas when offering explanations
- understand the concepts of reliability and validity when drawing conclusions from evidence
- be easily bored by over-repetition of basic ideas
- enjoy challenges and problem solving, while often being self-critical
- enjoy talking to the teacher about new information or ideas
- be self-motivated, willingly putting in extra time -- (but they may approach undemanding work casually and carelessly)
- show intense interest in one particular area of science to the exclusion of other topics.

